

Lower West Coast Water Supply Plan Accomplishments

**Linda Hoppes, LWC Project Manager
Water Supply Department**

Water Supply Development Options



29 Recommendations: 8 Categories

- Conservation
- Ground water resources
- Reclaimed water
- Regional Irrigation Distribution System
- Seawater
- Storage
- Surface water
- Related Implementation Strategies

Conservation

- **Alternative Water Supply Funding Program**
- **Water Savings Incentive Program**
- **Year-round Landscape Irrigation Rule**
- **Education**
- **Mobile Irrigation Labs**

Alternative Water Supply Funding Program

- Funds capital projects of utilities and others
- LWC: 112 MGD additional water was created from 2000-2004 at a cost to the District of \$4.8M
 - Reuse
 - Reverse Osmosis



Water Savings Incentive Program (WaterSIP)

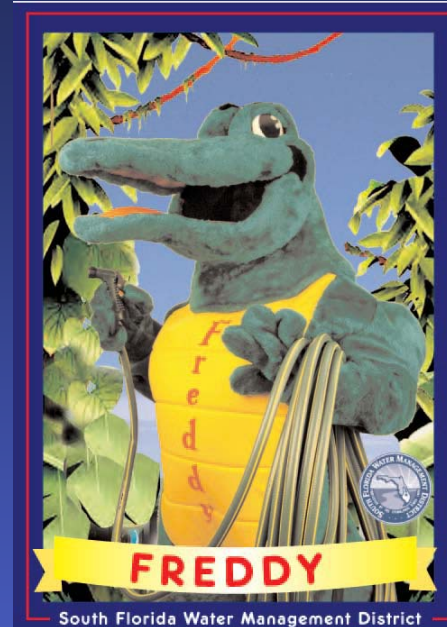
**Funds non-capital costs of
utilities and property owners
associations**

- **LWC: 147,000 GD additional
water created 2000-2004 at a
cost to the District of \$160,000,
50/50 cost shared**
 - **Indoor plumbing retro-fits**
 - **Shower head and toilet
replacement**
 - **Outdoor irrigation retro-fits**



Conservation Ordinance and Education

- Year-round Landscape Irrigation Rule 40E-24 coupled with city and county ordinances became effective 2003
- Completed educational campaign regarding landscape irrigation rule (“3-day a week rule”) April 2003



FREDDY'S WATERING PLAN

WATER ONLY WHEN NEEDED BUT NO MORE THAN THREE TIMES PER WEEK.

APPROVED WATERING DAYS:

Odd Number Addresses:
Mon. and/or Wed. and/or Sat.

Even Number Addresses:
Tues. and/or Thurs. and/or Sun.

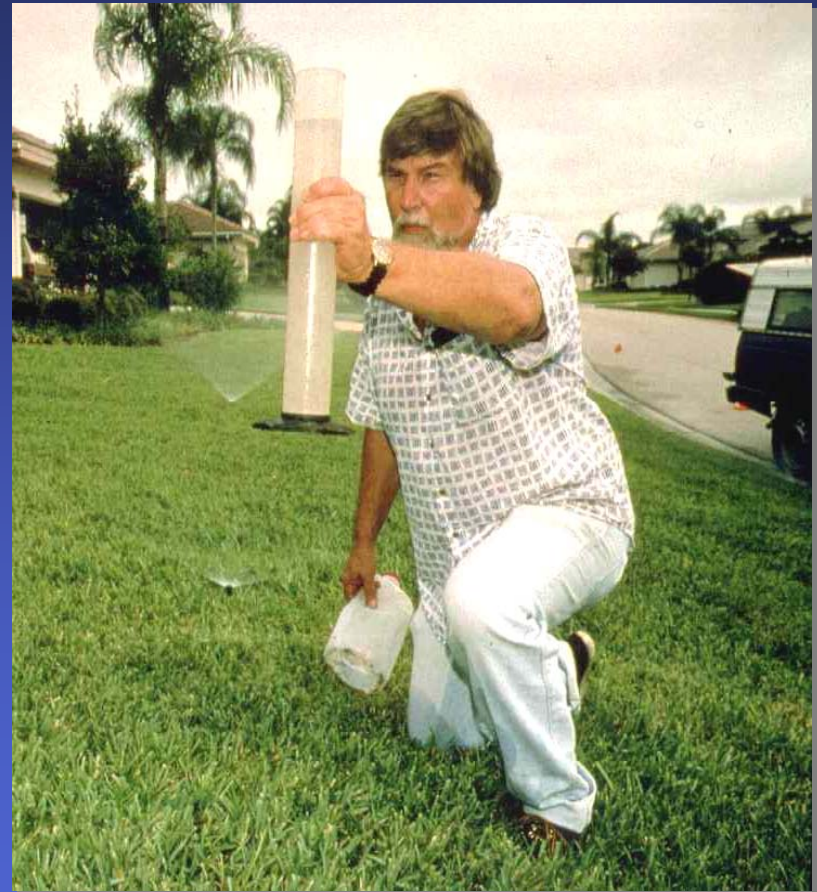
APPROVED WATERING HOURS:

12 a.m. to 10 a.m. or
4 p.m. to midnight.

No watering is allowed between
10 a.m. to 4 p.m. or on Fridays.

Urban and Agricultural Mobile Irrigation Lab

- 3 MILs
 - 1 Agriculture
 - 2 Urban
- Potential savings up to 4.9 MGD from 1989-2003
- Typically, a MIL performs 140 evaluations per year



Groundwater Resources

- Aquifer monitoring
- Aquifer rulemaking
- Aquifer modeling

US Geological Survey Aquifer Monitoring

- **8 wells outfitted with recorders to evaluate water level trends in Floridan Aquifer System**
 - **Lee County- 6 recorders installed in Lower Hawthorne Aquifers**
 - **Collier County- 2 recorders installed in Sandstone and Lower Hawthorn water table aquifers**
- **Hendry County- total of 23 wells at 10 sites were installed with recorders, various aquifers**

Floridan Aquifer Monitoring

- 10 new sites with continuous recording
 - 4 District owned sites
 - Immokalee
 - Golden Gate Estates
 - Big Cypress Preserve
 - City of LaBelle
 - 6 utility sites installed with recorders
- Quarterly water quality sampling of 12 Floridan wells



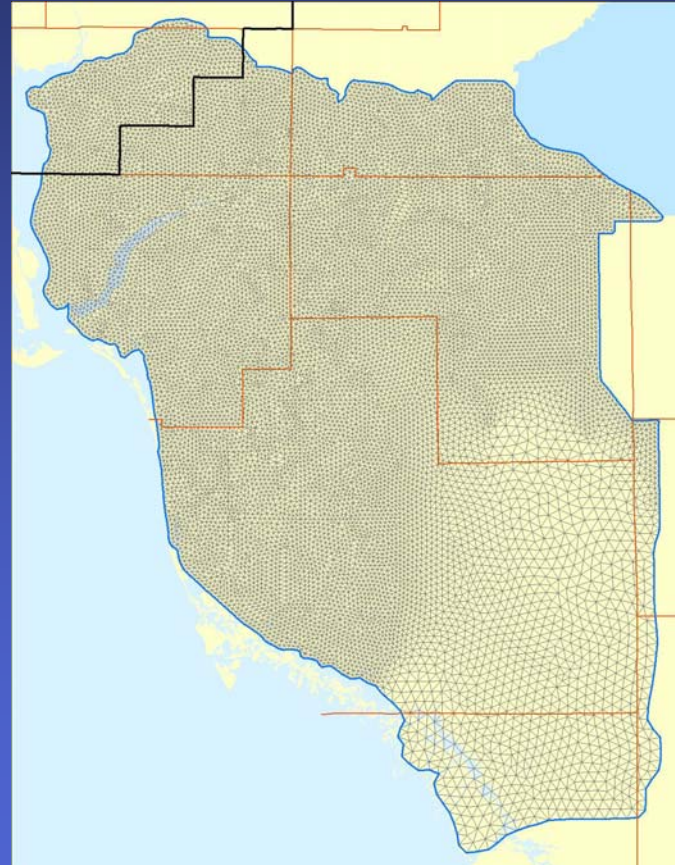
Monitoring for Saltwater Intrusion

SFWMD and USGS
cost shared 2
contracts for
investigation on
seasonal and
stress on the
pumping saltwater
interface and
delineation of
saltwater intrusion



Surface and Ground Water Modeling

Surface water, surficial, intermediate and Floridan Aquifer modeling is under development and will be included as part of this plan update



Water Reuse/Reclaimed Water



- Continued to be a leader in the state reusing 89% of wastewater treated or 62 MGD
- 21 of 22 wastewater facilities are using reclaimed water

Regional Irrigation Distribution System (RIDS)

- **Completed Regional Feasibility Study that determined need for system**
- **Completed Sub-regional analysis of existing and future conditions for movement and storage of reclaimed water**
- **Preliminary design phase to be completed by end of 2004**

RIDS

- Cooperative effort
- Water sources
 - Reclaimed water
 - Surface water
 - Groundwater
- Storage
 - ASR



Seawater

- District and FPL cost-shared feasibility study to investigate RO alternative source of potable water
- District has been meeting with Lee County Utilities and FPL to discuss potential of Ft. Myers desalination plant site



Storage

- **Aquifer Storage and Recovery (ASR)**
- **Regional and local retention**
- **Reservoirs**

Aquifer Storage and Recovery (ASR)

- 29 ASR projects in Lower West Coast region
- Caloosahatchee River ASR pilot project



Regional Retention Projects

Big Cypress Basin

- 4 retention projects created 365 acre feet of additional annual retention volume
 - Faka Union No.5 retrofit
 - Golden Gate Canal Weir #4
 - CR951 Water Control Structure- new gated culvert
 - Corkscrew Canal Weir #1- gated structure retrofit



Surface Water

- **Caloosahatchee River ASR Pilot Project and C-43 Storage Project**
- **Southwest Florida Feasibility Study**
- **Minimum Flows and Levels**
- **Floridan Well Abandonment**

Caloosahatchee Basin

C-43 Storage Project and ASR Pilot Project

LWC Recommendation

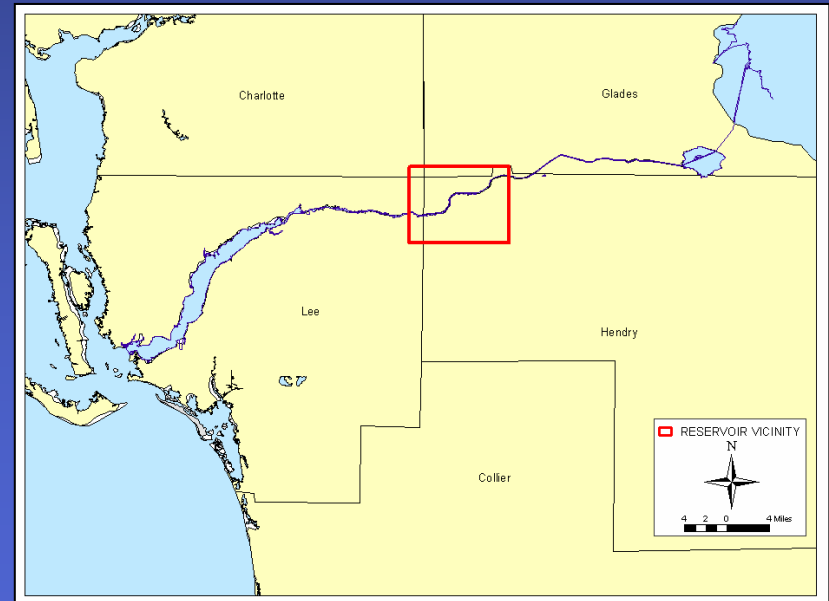
Work with USACE on project, design, construction and operation of regional reservoir and aquifer storage and recovery (ASR) project within the Caloosahatchee Basin.

CERP

Reservoir and ASR have been separated into two projects. ASR project construction to begin 2005.

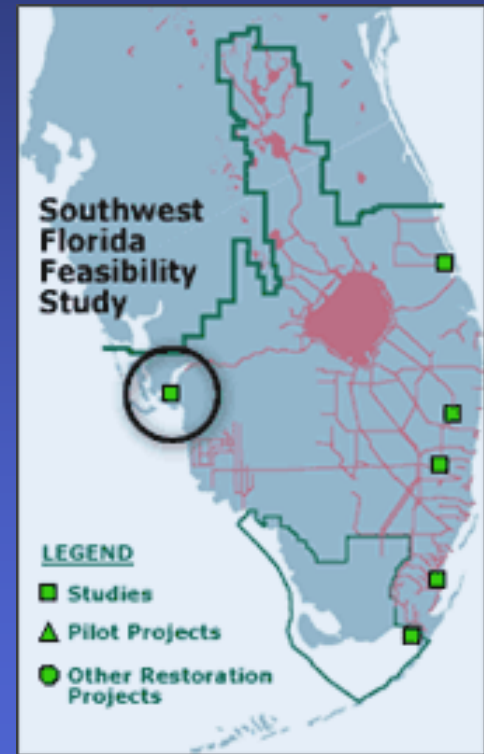
Strategic Priority

A location has been acquired in western Hendry County to construct a reservoir for 160,000 acre-feet of storage. Construction to begin late 2005 early 2006. Project continues to be developed with USACE.



Southwest Florida Feasibility Study

Purpose: Identify water resource related problems and opportunities and provide a framework to address the health of aquatic ecosystems, water flows, water quality, water supply, flood protection, wildlife, biological diversity and natural habitat



Minimum Flows and Levels (MFLs)

- **Caloosahatchee River and Estuary**

- Established 2001
- Updated 2003

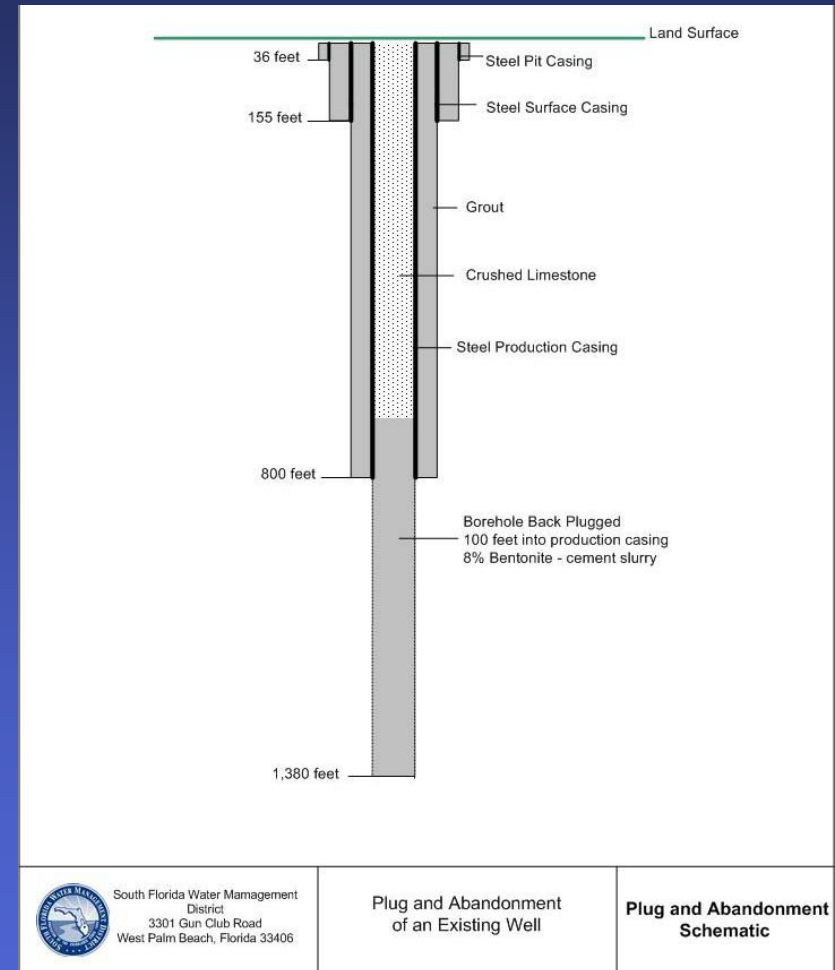
- **Lake Okeechobee**

- Established 2001



Floridan Well Abandonment

- District assists with state or local initiatives
- Presently there is no sponsored program in Lower West Coast



Related Implementation Strategies

- **Wetland Drawdown Study**
- **Water Use Revisions**
- **Establish MFL for Caloosahatchee River and Estuary, and LWC Aquifer System**

Wetland Drawdown Study

- Study completed 2003
- Rule revisions completed 2003



Water Use Rule Revisions



- Rule's revised and approved 2002 and 2003
- Future rulemaking to address water reservations, MFLs, CERP, conservation and water shortage

Minimum Flows and Levels (MFLs)

- **Caloosahatchee River and Estuary**

- Established 2001
- Updated 2003

- **LWC Aquifer System**

- Lower Tamiami
- Sandstone
- Mid Hawthorn

- **Lake Okeechobee**

- Established 2001



